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ABSTRACT

In a recent controversial article, "Feeling and Thinking: Preferences Need No Inferences" (1980), R. B. Zajonc argues in support of the independence of affect and cognition. Examination of the structure and assumptions of Zajonc's arguments suggests that they do not support the view that affect is non-cognitive. Zajonc appears to leap from the conclusion that people are able to make affective judgments without being able to make certain prior conscious cognitive judgments, to the conclusion that affects have no cognitive aspects, or only very minimal or "primitive" cognitive aspects. Other ways of conceptualizing the cognitive aspects of affect are possible. Zajonc introduces a new ontological category of features, that of "preferenda," in an attempt to account for the features of the stimulus to which people respond in affective reactions. This suggests that Zajonc has here simply re-invented "intentional objects," and that their introduction is not only unnecessary, but may even confuse certain central questions that we may wish to ask about the relevant stimulus features for affective responses. Zajonc's attempts to distinguish affect from cognition on the basis of its being "involuntary" and "primary in phylogeny," are also subject to criticism. (Author/JAC)

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AFFECT AND COGNITION: AN EXAMINATION OF ZAJONC'S VIEWS

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ABSTRACT

AFFECT AND COGNITION: AN EXAMINATION OF ZAJONC'S VIEWS

Anne E. Thompson

In a recent controversial article "Feeling and Thinking: Preferences Need No Inferences" (1980), R. B. Zajonc argues in support of the independence of affect and cognition. I examine the structure and assumptions of Zajonc's arguments and suggest that they do not support the view that affect is non-cognitive. Zajonc appears to leap from the conclusion that people are able to make affective judgments without being able to make certain prior conscious cognitive judgments -- to the conclusion that affects have no cognitive aspects, or only very minimal or "primitive" cognitive aspects. I suggest that other ways of conceptualizing the cognitive aspects of affects are possible. Zajonc introduces a new ontological category of features -- that of "preferenda" -- in an attempt to account for the features of the stimulus to which people respond in affective reactions. I suggest that Zajonc has here simply re-invented "intentional objects", and that their introduction is not only unnecessary, but may even confuse certain central questions that we may wish to ask about the relevant stimulus features for affective responses. I also criticize Zajonc's attempts to distinguish affect from cognition on the basis of its being "involuntary" and "primary in phylogeny".

In a stimulating and controversial article "Feeling and Thinking: Preferences Need No Inferences" (1980), R. B. Zajonc argues in support of the independence of affect and cognition, and describes himself as rediscovering Freud's separation of cognition and affect[1] (p. 172). His thesis has elicited critical comments from a number of points of view (see, for example, Baars, 1981; Birnbaum, 1981; Lazarus, 1981; Mellers, 1981; Slife, 1981). In this paper I first present a brief historical context for the issues raised by Zajonc's paper, and I then examine the structure and assumptions of Zajonc's arguments, and suggest that they do not support the view that affects are non-cognitive.

The view of affects as non-cognitive has been the predominant one in the history of British empiricism, as illustrated by Neu's interesting discussion (1977) of the contrast between the theory of Hume (a British empiricist), which takes affects to be non-cognitive, and the theory of Spinoza, which takes affects to be intrinsically cognitive and object-relational. An emphasis on non-cognitive formulations of affect in psychological theories does seem to have coincided with the strong influence of strict empiricism on psychology earlier in this century.

The emphasis on non-cognitive formulations of affect in psychology, especially prior to the sixties, is represented clearly by Duffy's paper published in 1941 in which she attempts to dismiss emotion as a phenomenon sui generis and to conceptualize it solely as a quantitative factor--the energy level of any response. (This was elaborated by others, for example, by Lindsley (1951) who related emotion to general activation or arousal level.) Such non-cognitive formulations encounter a number of problems in conceptualizing the full complexity of emotion: most notably, the social or object-relational aspects of emotion and qualitative differences among emotions.

There were countervailing voices even during this period. Leeper, for example, writing from the forties on (e.g., 1948, 1959, 1970) conceptualized emotions as "representational" (and therefore cognitive) processes. With the increasing interest in cognition and the relative decline of strict empiricism in psychology in the sixties came an emphasis on cognitive factors in emotion. The work of Schacter and Singer (1962) especially made an impact, and Arnold (1960, 1970) and R.S. Lazarus (1966) also formulated cognitive theories of emotion, which centered around the cognitive construct of "appraisal".

Philosophy has also been moving toward a cognitive formulation of emotions (perhaps in part because in philosophy, too, the influence of strict empiricism has been declining). In a seminal paper (published in 1965) Pitcher argued cogently against both a purely non-cognitive view of emotion and also against what he called the "Traditional View" (in British empiricism, that is) of emotion, in which affect and cognition are separate (that is cognition is not an intrinsic part of emotion) but in which cognition and affects may be "associated". Pitcher argues (I believe validly) that only a cognitive view of affect--one in which cognition is a constitutive or intrinsic part of affect--can account for two central features, namely, that affects are directed toward objects and that they involve evaluations of objects, so that emotions can be said to be appropriate or inappropriate, well-founded or ill-founded. Kenny (1963), Wilson (1972) and Solomon (1977) also articulated at some length the philosophical basis for the cognitive view of affect.

More recent psychological theorists, for example, Mandler, 1975, DeRivera, 1977, and Averill,1980 have presented detailed analyses of affect in cognitive terms. Zajonc, then, in presenting a non-cognitive view of emotion, presents a challenge, both empirically and theoretically, to cognitive theories of affect.

Zajonc argues against what he sees as the predominant view of contemporary social and cognitive psychology, namely, that affect is "post-cognitive"--that is, the belief that

> an affective reaction...is based on a prior cognitive process whereby a variety of content discriminations are made, features identified, examined for their value, and weighted for their contributions (p. 151).

Zajonc describes an experiment of his own (with W. R. Wilson) that he feels supports this view, that affects are not "post-cognitive". In this experiment judgments of liking and disliking of the stimuli were found to be more reliably correlated with actual exposure to the stimuli than were judgments of recognition.

If Zajonc's conclusion from this and similar experiments were simply that we are able to make affective judgments without being able to make certain cognitive judgments, (in this case of the type "I have seen that before"), then I would have no disagreement with him[2]. However, having adduced evidence that such extensive cognitive judgments do not precede judgments of affect, Zajonc goes on to draw a sweeping conclusion; namely, he says that affects are independent of cognition. At other times he presents a more moderate view that affects can occur "without extensive perceptual and cognitive encoding" and that "...to arouse affects objects need to be cognized very little" (p.154).

I suggest that he leaps from making a distinction between conscious affective judgments and cognitive judgments to proposing an affect--content distinction[3], in which affects either have no cognitive aspects, or only very minimal cognitive aspects.

One point of saying that affects have cognitive content is to say that, for example, if you dislike, you dislike something. You may not be able to specify consciously what this thing is, but surely it does not follow that the affect need be content-less. In saying that affects may have content without the subject's being able to specify what it is, I am not proposing that in the unconscious or preconscious there is a sort of inner description of this content which is somehow simply blocked from reaching consciousness, so that if we could see into the unconscious, so to speak, we would find the unconscious equivalent of conscious cognitive judgments. Sometimes this may be the case, but the storage of affective content both in the unconscious and preconscious may well be in quite a different form from that of conscious cognitive judgments, which are primarily linguistic in form. Affective contents may be analog in form, pictorial, or symbolic in a way that psychoanalytic theorists associate with primary process thinking[4].

Zajonc explicitly recognizes this possibility and says that affects arise early in the process of registration and retrieval, "albeit often weakly and vaguely", and that they may derive from a separate, parallel system in the organism. He relates this separate system to Allan Paivio's (1975) dual coding hypothesis for the processing of words and pictures.

It may be that affects are processed by a system that is (at least in part) separate from that which mediates conscious cognitive judgments about the physical properties of stimuli--this is an interesting hypothesis--but it does not follow from it that affects are non-cognitive, or even

that they are only minimally cognitive --unless, of course, one is limiting the use of the word "cognition" to linguistically-coded conscious cognitive judgments.

It makes a great deal of sense that with some sort of analog representation of affective content, we might have an emotion that involves this content without our at all being able to give a description of the features of this content. However, this happens in other non-affective cognitive processes also, as, for example, when we do recognize a person-- or, he just looks somehow familiar to us --but find ourselves unable to say why he looks familiar.

Zajonc refers to a study by Marcel (1979), in which subjects faced with decreasing stimulus exposure were able to make judgments about the semantic content of the stimulus, namely, its semantic similarity to other stimuli, with greater reliability than they were able to make judgments about the presence or absence of the stimulus, or the physical similarity of the stimuli. Zajonc comments that meaning --the semantic aspect -- is "saturated with affect", making reference to the Semantic Differential literature, and so sees this experiment as supporting his arguments for a separation of affect and cognition. But surely it is the case that semantic similarity is actually the most "cognitive" of these three features of the stimulus. Semantic similarity by definition is similarity of meaning, that is, of content. What this experiment actually shows is that judgments of similarity of content can proceed in the absence of the ability to make cognitive judgments about the presence or absence of stimuli, or physical stimulus properties. This is consistent with the view presented here that it is possible for a subject to "cognize" in some way about content, without being able to give explicit descriptions of it. Given this it is hard to see how Zajonc can argue that

the results of this experiment support his conclusion that there should be an affect -- content separation. He must simply assume that judgments about semantic similarity are mediated by non-cognitive "affect" and not by content -- but in so doing, he is introducing as an assumption that which he wishes to argue for.

Zajonc suggests that affective judgments are based on features which he calls "preferenda" (p. 159). He says:

> The assumption that component affect, utilities, or values attach themselves to the very same features that the subject attends to in a typical detection, recognition, discrimination, or categorization task is likely to be wrong. The analysis of preferences is not simply an analysis of cold cognitive representations that have become hot, i. e., representations that have some affect attached to them (p. 159).

At first it sounds as if he is suggesting that these features are simply different from, or other than, the features of the stimulus on which detection and so forth are based:

> If this is indeed the case, then there must exist a class of features that can combine more readily with affect.... The features might be quite gross, vague, and global.... In order to distinguish this class of features from simple discriminanda, we may wish to call them "preferenda" (p. 159).

However, he then goes on to suggest that preferenda are not simply different features of the object from those on which discriminations, and so forth, are based. In fact it is not clear at all what preferenda are; nor is it clear that they are indeed features of the object at all. He says:

> If they exist they are constituted of interactions between some gross object features and internal states of the individual (p. 159).

He describes them as "constituted of" such interactions, because they "can be altered while the object remains unchanged". But this, of course, is just the old scholastic criterion for "intentionality" or

"intentional objects". It seems that Zajonc has here re-invented "intentional objects", or more specifically in this case, "intentional attributes", which are to be distinguished from objects (or attributes) that can be extensionally defined. If all Zajonc were saying is that how we take an object of an emotion to be, is the result of an interaction between features of the object and our internal states, then I would have no disagreement with him. However, it is then not necessary to postulate some new ontological category, namely, preferenda, which seem quite mysterious.

Nor is it obvious that the features of the object that we respond to in emotion are always "gross, vague, and global" -- although this is an interesting hypothesis. For example, I can imagine a situation in which Susan takes a dislike to John, whom she has just met, but cannot say why she dislikes him. Is the feature of John that prompted her dislike, then necessarily "vague" or "global"? It might be his red hair, or the mole on the side of his cheek, or his slight lisp, which might remind her of some past disliked person. The feature could be highly specific, while her report that "there's just something unpleasant about him" might be vague. To talk about some category of features as "preferenda" might obscure just such important distinctions as how the subject is "taking" the object -- consciously and unconsciously -- and the features of the real object that are in fact being responded to.

It is also the case that our perception of some objective physical features of the object (which Zajonc calls "discriminanda") can be altered while the stimulus is unchanged -- examples are the waterfall illusion, motion-after-effects, and kinesthetic figural-after-effects (in which a straight object is felt to be curved in the opposite

direction to a curved object that was held against the palm for a period of time). Thus "discriminanda" can also be altered in certain instances while the object remains unchanged, and it seems that this is not sufficient to discriminate them from Zajonc's category "preferenda".

Zajonc says that affects may arise early in the perception of a stimulus and facilitate complex encoding (p. 168). This may certainly often be the case, and how they do so is an interesting empirical problem, to which Zajonc rightly is pointing. But how are they to play this role, if they have no content, or merely very primitive and minimal content, as Zajonc suggests? The effects of perceptual defense, subliminal perception, and so forth, which Zajonc mentions and acknowledges, and describes as occurring "entirely under the influence of affective factors without participation of cognitive processes" (p. 172) can be quite subtle and extensive. By "cognitive processes" he must again mean fully articulated, conscious, linguistically-coded cognitions.

Zajonc suggests that affective reactions, in contradistinction to cognitions, are "inescapable":

> Unlike judgments of objective stimulus properties, affective reactions that often accompany these judgments cannot always be voluntarily controlled (p. 156)

He later says that not only affective reactions, but more specifically, affective judgments, are inescapable. Here we see "affect" lined up with the "involuntary" and "cognition" with the "voluntary". I suggest that there is no reason to believe that our cognitions are always voluntary. Rather, this opposition of "cognition" to "emotion" seems to stem from an <u>a priori</u> equation of "cognition" with "reason", and "emotion" with the "irrational". Alvin Goldman (1978) puts the point very

clearly — that we do not necessarily have control over our cognitive judgments:

> I cannot, for example, simply choose to believe that there is an elephant in my study. I can choose to imagine this, or to write it down, or to repeat it to myself, or even to act as if it were true. But I cannot simply decide to go ahead and believe it (p.515)

Affects and our cognitions about "objective stimulus properties" cannot be distinguished on this count.

Zajonc also suggests that the affective system does not involve cognition, on the grounds that it is primary phylogenetically. But the emotions of complex systems such as humans are much more highly developed than are the lower level affects of more primitive systems. Affects themselves have developed phylogenetically.[5] It is certainly possible that one way they have done so is through an increasing refinement of a cognitive component. I am not suggesting, of course, that affects necessarily require complex, conscious, linguistically-coded cognitive judgments, which are relatively slow in nature. That affects could draw on other forms of cognition that are faster, more implicit, surely would be adaptive. But this need not mean that affects are "primitive", or that they retain an earlier phylogenetic form. Even those who would hypothesize that emotions are "primitive" because "lower" structures of the brain are involved in emotion would also have to admit that these structures have evolved phylogenetically to a considerable extent. It seems quite plausible that one could suggest, in contradistinction to Zajonc, that one impressive mark of the phylogenetic development of human beings is the high level of refinement of their emotional responsiveness.

In summary, Zajonc's arguments do seem to prevail against a view that takes the cognitive aspect of emotion as equivalent to conscious cognitive judgment. His stimulating paper underscores the need to conceptualize more clearly the cognitive constituents of affect (for example, what is meant by such terms as "appraisal", the "object" of emotion, and so forth), and the nature of cognitive encoding required by a cognitive theory of affects. But I have suggested that Zajonc's arguments and the evidence he adduces do not support his conclusion that affects are non-cognitive or that they have only very "primitive" or minimal cognitive aspects. Only if we assume that affective contents must be conceptualized in terms of our consciously articulated awareness of them--and I see no reason why we must make this assumption--would we take Zajonc's evidence to support the separation of affect and cognition. That affects themselves have cognitive content indeed seems an empirically fruitful assumption in view of their often pervasive and subtle effects in information processing, social roles, and object relations.

FOOTNOTES

1. Elsewhere I have suggested (Thompson, 1981) that although Freud's theoretical statements on emotion suggest a separation of affect and cognition, his clinical views seem to presuppose a theory of affect in which cognition plays an intrinsic role.

2. Several authors (e. g., Birnbaum, 1981; Mellers, 1981) have examined in more detail Zajonc's evidence for this conclusion.

3. Baars (1981) also suggests that on Zajonc's view "the word cognitive should be read as 'a process involving conscious judgment' " (p. 223).

4. Lazarus (1981) makes a similar point (p. 223).

5. Lazarus, Averill, and Opton (1970) emphasize this point.

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